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SURGICAL MICROSCOPES

Health Care Technology Unit
ORBIS Flying Eye Hospital

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SURGICAL MICROSCOPES – Preventive maintenance

External surfaces

- Read the manufacturer’s instructions because some surfaces can be damaged by harsh cleaners and alcohol.
- Do not spray cleaner on the surface. Spray cleaner on the wipe or towel first. This prevents the solution from running inside the equipment.

Lubrication

- All mechanical movements must be checked periodically and gently lubricated.
- Read the manufacturer's instructions for specification of lubricants and which parts must be lubricated.
- The castor wheels of a microscope stand must run smoothly. Replace them as a set when any one or more of the castors is worn out or sticky.
- Do not move a microscope when the lamp is on. Even gentle vibration may cause the filament in the bulb to break.

Lenses

- All externally accessible lenses must be properly cleaned periodically (e.g., monthly or quarterly).
- Internal lenses should be cleaned only if necessary.
- Read the manufacturer's instructions for specification of which cleaning solutions should be used.
- If such information is not available, use preferably water-based cleaning solutions.

Objectives

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- Removal of dust and stain on the external optics of a microscope is specially important for microscopes with oil-immersed objectives.
- In case the oil enters the objective (and the image is not seen clearly), remove the objective, pour a drop or two of acetone into the objective and when the oil gets dissolved in acetone, pour out the acetone and shake the objective to make it dry.
- Objectives of surgical microscopes always get a spray of fluid during the operation. After the end of the surgery, clean the objective surface appropriately.

Bulbs

- Bulbs should be inspected quarterly and replaced if necessary.

Cooling fans

- Cooling fans should run smoothly.
- Replace them as necessary (a fan is cheaper than a bulb).

Fiber optics

- Fiber optics must be handled with maximum care during corrective and preventive maintenance procedures.